

*Evaluation of Historic Resources
following an Earthquake or Fire*

*Milford Wayne Donaldson, FAIA
California State Historic Preservation
Officer*

*Disaster Training for Cultural Resources
Marconi Center
February 2 - 6, 2009*



ATC 20-1

**Field manual:
postearthquake safety
evaluation of buildings**



Applied Technology Council

ATC 45

**Field manual:
safety evaluation of
buildings after wind-
storms and floods**



Applied Technology Council



WITCH FIRE

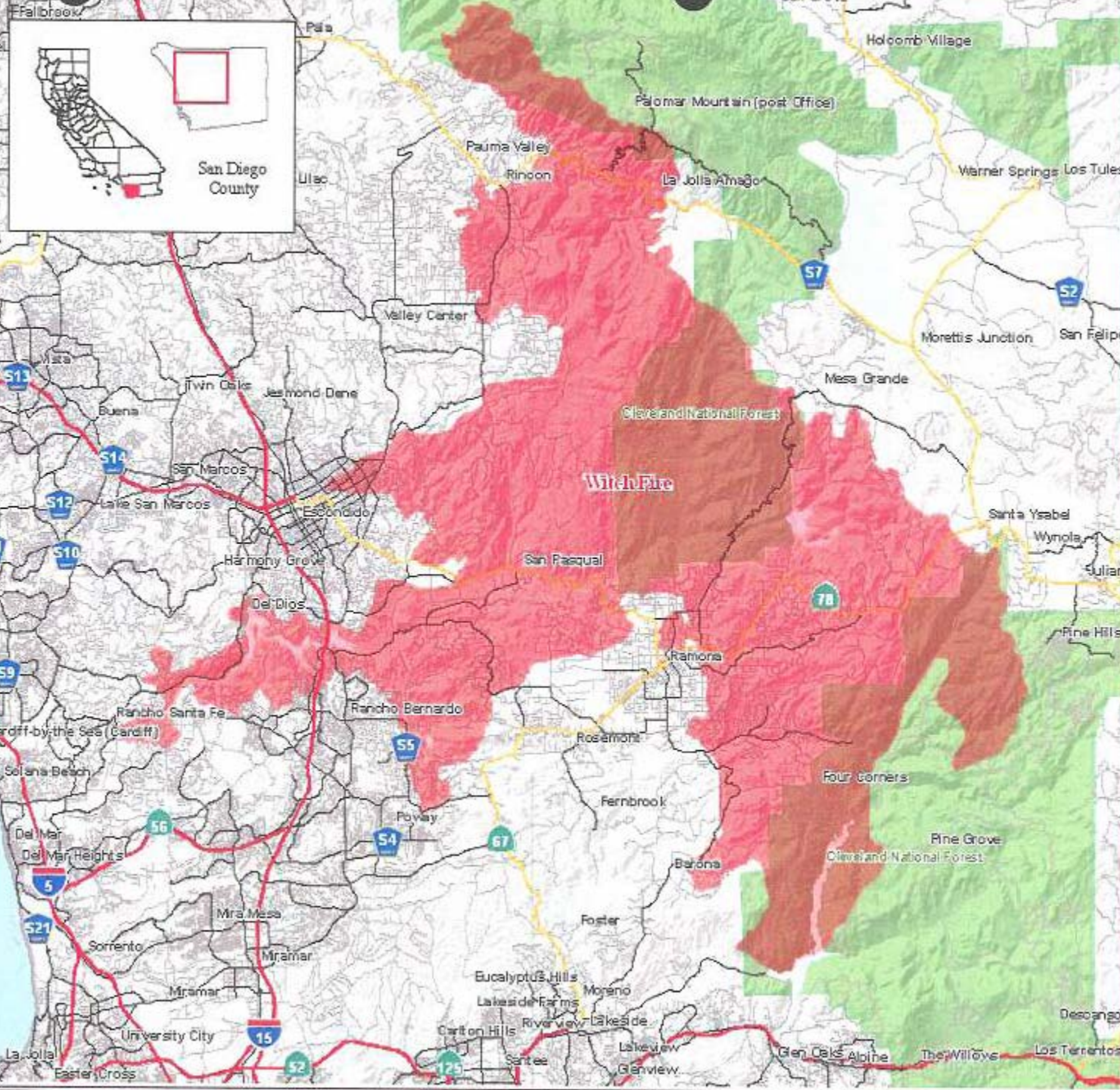
CA-MVU-010432

as of 10/26/07 - 0600 Hrs

197,990 Acres 45% Contained

Started October 21, 2007 1235 Hrs

San Diego County



Fire Threats and Damages

1,061 Residence Destroyed
30 Commercial Destroyed
175 Outbuilding/Other Destroyed
62 Residence Damaged
10 Commercial Damaged
50 Outbuilding/Other Damaged
1,000 Residence Threatened
100 Commercial Property Threatened
300 Outbuilding/Other Threatened

12 hours: Communities threatened: Julian, Pine Hills, Canyon, Wynola, Santa Ysabel, Alpine, Harrison Canyon, Mesa Grande.
24 hours: Threat(s) have decreased yet still exist to: Valley Center, Rancho Santa Fe, Rincon, Wildcat Canyon, Ramona.

Fire Perimeter

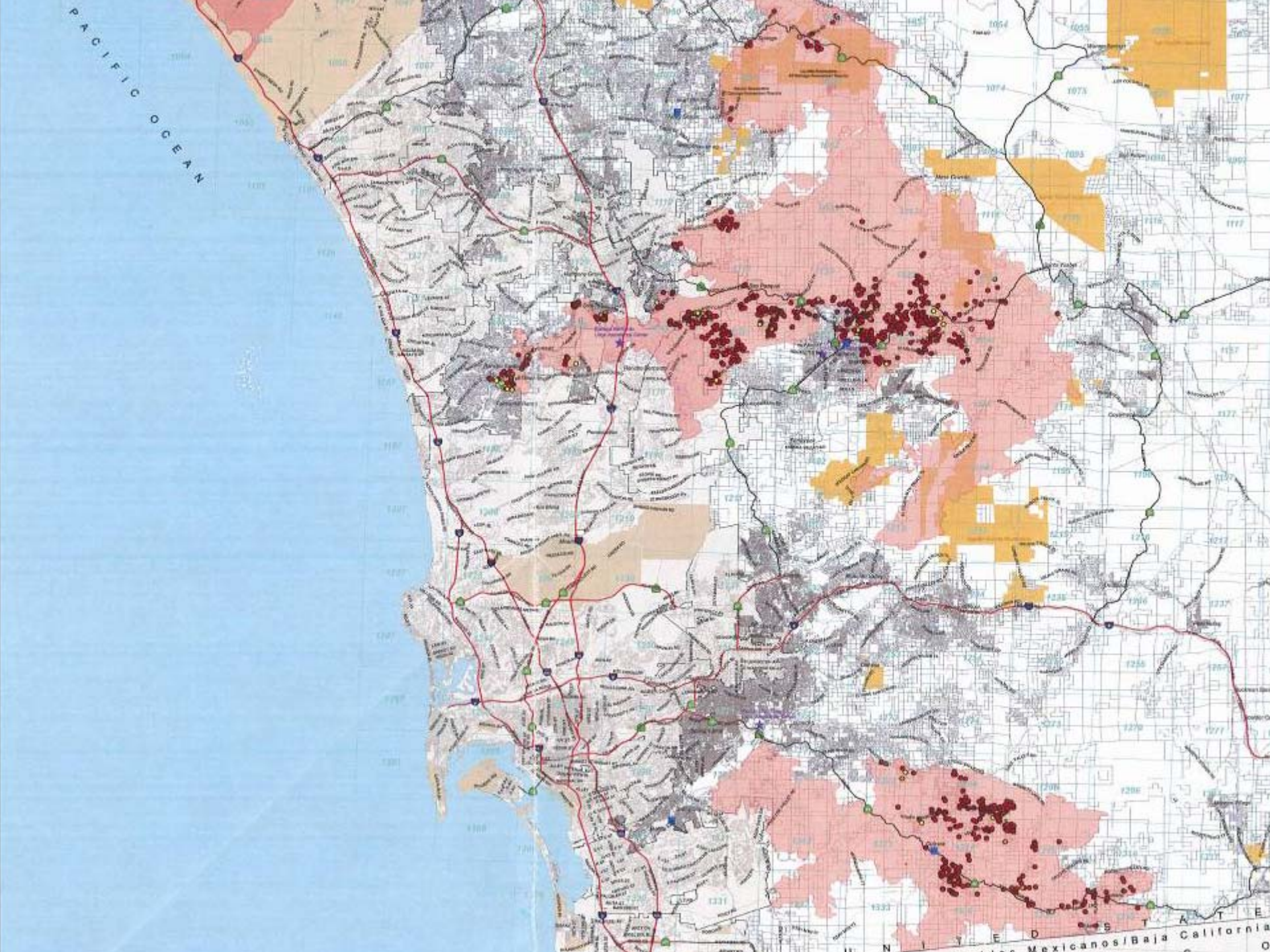
Fire Perimeter 102507 PM

Transportation Network

- Freeway
- Highway
- Primary
- Secondary
- Incorporated City Limits
- Lake
- National Forest Boundary
- Pacific Ocean

2 1 0 2 4
Miles

















Archeology Program

National Park Service
Department of the Interior



Technical Brief 20: Archeological Resource Damage Assessment: Legal Basis and Methods

Martin E. McAllister, Archeological Resource Investigations, Missoula, Montana

Published by the DOI Departmental Consulting Archeologist/NPS Archeology Program,
National Park Service, Washington, DC, February 2007.

**Foreword, by Francis P. McManamon, Chief Archeologist, NPS; Departmental Consulting
Archeologist, DOI**

This technical brief describes and explains the archeological resource damage assessment process. The legal foundation for and the necessity of archeological damage assessments is described, as are the procedures for field damage assessment, value and cost determinations, and report preparation. Archeologists, attorneys, and law enforcement specialists involved in investigations of crimes against archeological resources must understand clearly the archeological resource damage assessment process and how to carry it out correctly. The credibility of these damage assessments directly affects the outcome of legal cases and the criminal or civil penalties imposed.

In November 2002, a new sentencing guideline issued by the United States Sentencing Commission became effective. This document, entitled, "Cultural Heritage Guideline," provided the federal judicial system with consistent, rational procedures for developing potential sentences for those convicted of crimes involving cultural heritage resources, including various kinds of archeological resources. Prohibited activities include, among other things, damage to or destruction of archeological resources, unauthorized removal of artifacts, features, or other components from protected sites, theft, and illegal trafficking.

The cultural heritage guidelines make use of the concepts of "archeological value," "commercial value," and "the cost of restoration and repair." All of these terms, as they are used in a formal legal context, are defined either in the Archaeological Resource Protection Act (ARPA), the federal law that most directly protects archeological resources, or the regulations that implement this law. Since ARPA, which became law in 1979, has been enforced, the ways in which these concepts and terms have been used has developed through their application in individual cases. After 25 years of practical use of these concepts, the synthesis of what had been learned through individual cases into a set of standards was warranted. Such general standards would be of use to archeologists, attorneys, and law enforcement personnel in federal agencies assigned to



Figure 4: Example of a Cost of Restoration and Repair Table Format (Adapt as necessary based on circumstances of violation. Note that cost is shown only as an example.)

Cost of Restoration and Repair		
[Category / Line Item]	[Units / Unit Cost]	[Line Item Cost]
Emergency Restoration and Repair		
Examination and Analysis	3 hours @ \$50.00/hour	\$150.00
Consultation		
Consultation with SHPO	4 hours @ \$50.00/hour	\$200.00
Consultation with THPO(s) or Other Parties	4 hours @ \$50.00/hour	\$200.00
Stabilization		
Labor	_____	_____
Materials	_____	_____
Preparation of reports	_____	_____
Emergency Restoration and Repair Subtotal		_____
Projected Restoration and Repair		
Repatriation	_____	_____
Curation	_____	_____
Projected Restoration and Repair Subtotal		_____
Total Cost of Restoration and Repair		_____

Archeological Resource Damage Assessment Report Preparation

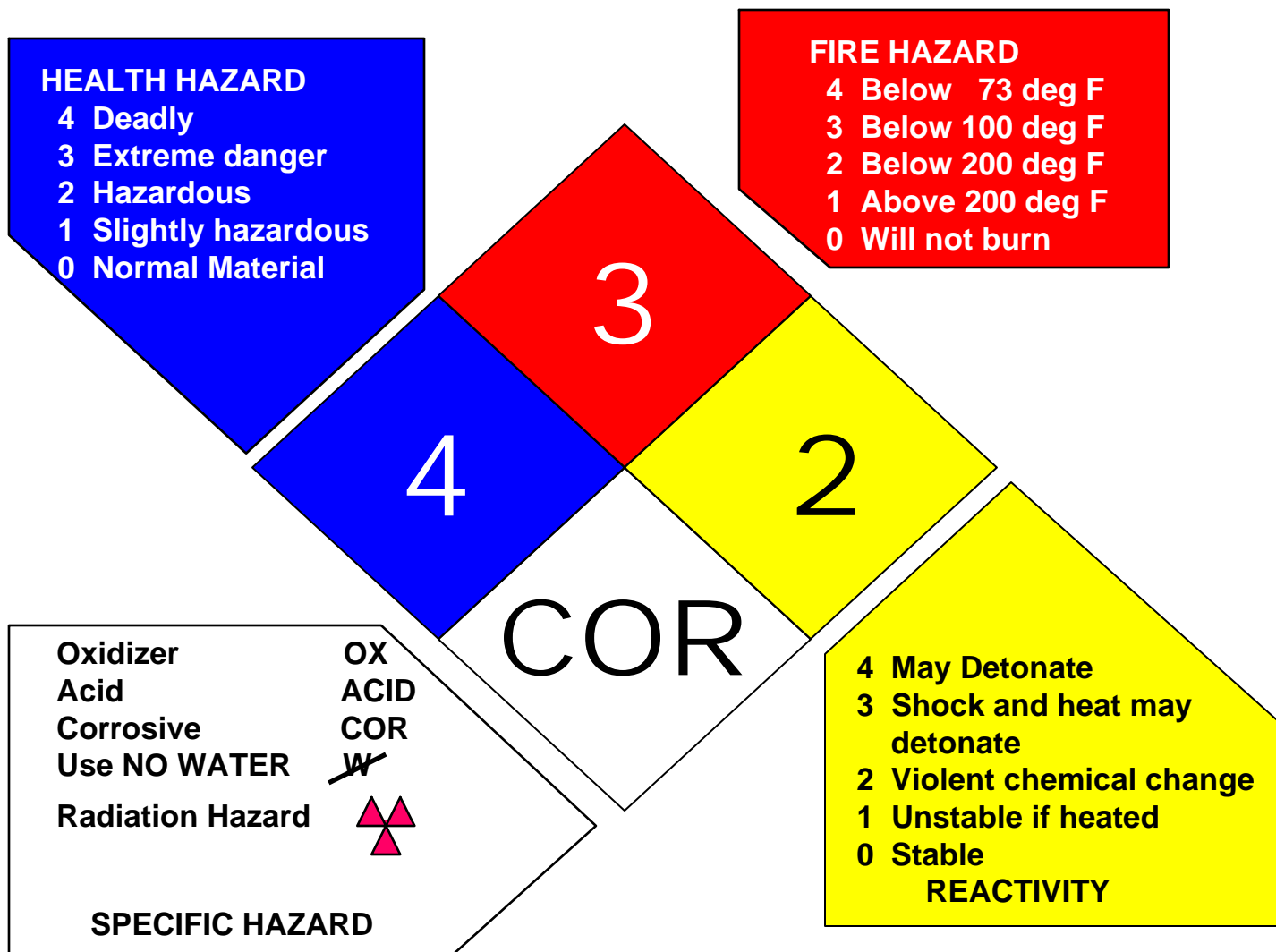
The field damage assessment and value and cost determination procedures carried out and the findings of this process are presented in an archeological resource damage assessment report. The archeological resource damage assessment report is an extremely important part of the overall criminal case report or civil case documentation because it provides the information necessary to prove that the archeological elements of a violation of ARPA (criminal or civil) or other applicable statutes are met. The report also is the basis for the author's testimony in a criminal or civil legal proceedings since it tells the attorneys involved in the case what this archeologist is prepared to testify about.

Report Topics













APRIL
11/20/11

95

43
RULE

U.S. Department of Homeland Security
Joint Field Office
FEMA DR-1731-CA
75 North Fair Oaks Avenue
Pasadena, California 91103
(626) 431-3000



FEMA

November 1, 2007

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
Office of Historic Preservation Department of Parks and Recreation
1416 9th Street, Rm. 1442-7
Sacramento, California 95814

Re: Authorization of Applicant to Initiate Consultation

Dear Mr. Donaldson:

The La Jolla Band of Luiseño Indians, a potential Applicant for Federal assistance and entitled to participate as a consulting party, is authorized by the U.S. Department of Homeland Security's Federal Emergency Management Agency to initiate consultation with your office, as prescribed in 36 Code of Federal Regulations Section 800.2(a)(3). FEMA remains responsible for all findings and determinations and will ensure that any document or study meets applicable guidelines and standards as are necessary or required by your office.

The applicant contact is:

Mr. Rob Roy
Cultural Resources Coordinator
La Jolla Band of Luiseño Indians
22000 Hwy 76
Pauma Valley, CA 92061
Phone: 619-540-8598















PROJECT WORKSHEET APPLICANT CONCURRENCE FORM

DECLARATION No. FEMA DR- _____	PROJECT No.	FIPS No.	DATE	CATEGORY																																				
APPLICANT		COUNTY																																						
LOCATION																																								
SCOPE OF WORK Do you concur with the scope of work described on this Project Worksheet? YES <input type="checkbox"/> NO <input type="checkbox"/> If NO, provide statement of reasons and new scope of work. Additional pages may be attached.																																								
PROJECT COST Do you concur with the project cost on this Project Worksheet? YES <input type="checkbox"/> NO <input type="checkbox"/> If NO, provide statement of reasons and proposed project cost, including line item estimates. Additional pages may be attached.																																								
PROPOSED PROJECT COST \$ _____																																								
SPECIAL CONSIDERATIONS Do you concur with the nine (9) findings of the SPECIAL CONSIDERATIONS QUESTIONS? If NO for any of these, provide statement of reasons to support your position:																																								
<table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">1. Insurance availability</td> <td style="width: 10%;">YES <input type="checkbox"/></td> <td style="width: 10%;">NO <input type="checkbox"/></td> <td style="width: 40%;"></td> </tr> <tr> <td>2. Located within a floodplain or wetlands</td> <td>YES <input type="checkbox"/></td> <td>NO <input type="checkbox"/></td> <td></td> </tr> <tr> <td>3. Adjacent to a protected area</td> <td>YES <input type="checkbox"/></td> <td>NO <input type="checkbox"/></td> <td></td> </tr> <tr> <td>4. Changes pre-disaster condition</td> <td>YES <input type="checkbox"/></td> <td>NO <input type="checkbox"/></td> <td></td> </tr> <tr> <td>5. Hazard Mitigation Proposal</td> <td>YES <input type="checkbox"/></td> <td>NO <input type="checkbox"/></td> <td></td> </tr> <tr> <td>6. Historic facility or site</td> <td>YES <input type="checkbox"/></td> <td>NO <input type="checkbox"/></td> <td></td> </tr> <tr> <td>7. On or near pristine or undisturbed area</td> <td>YES <input type="checkbox"/></td> <td>NO <input type="checkbox"/></td> <td></td> </tr> <tr> <td>8. Hazardous materials at or adjacent to facility</td> <td>YES <input type="checkbox"/></td> <td>NO <input type="checkbox"/></td> <td></td> </tr> <tr> <td>9. Other environmental or controversial issues</td> <td>YES <input type="checkbox"/></td> <td>NO <input type="checkbox"/></td> <td></td> </tr> </table>					1. Insurance availability	YES <input type="checkbox"/>	NO <input type="checkbox"/>		2. Located within a floodplain or wetlands	YES <input type="checkbox"/>	NO <input type="checkbox"/>		3. Adjacent to a protected area	YES <input type="checkbox"/>	NO <input type="checkbox"/>		4. Changes pre-disaster condition	YES <input type="checkbox"/>	NO <input type="checkbox"/>		5. Hazard Mitigation Proposal	YES <input type="checkbox"/>	NO <input type="checkbox"/>		6. Historic facility or site	YES <input type="checkbox"/>	NO <input type="checkbox"/>		7. On or near pristine or undisturbed area	YES <input type="checkbox"/>	NO <input type="checkbox"/>		8. Hazardous materials at or adjacent to facility	YES <input type="checkbox"/>	NO <input type="checkbox"/>		9. Other environmental or controversial issues	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
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9. Other environmental or controversial issues	YES <input type="checkbox"/>	NO <input type="checkbox"/>																																						
Statement of reasons for non-concurrence with Special Considerations finding(s) above. Additional pages may be attached.																																								
APPLICANT SIGNATURE			DATE																																					











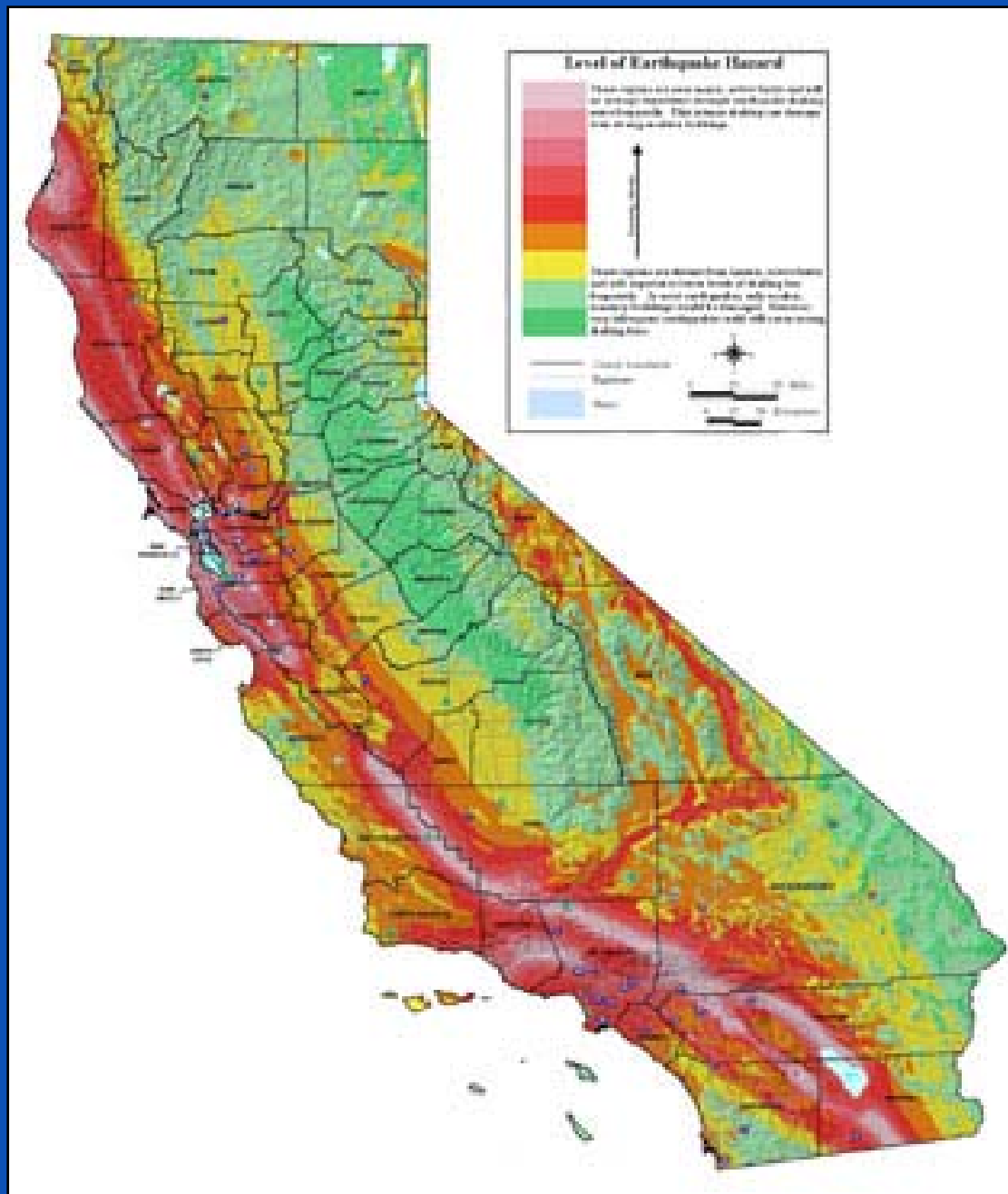


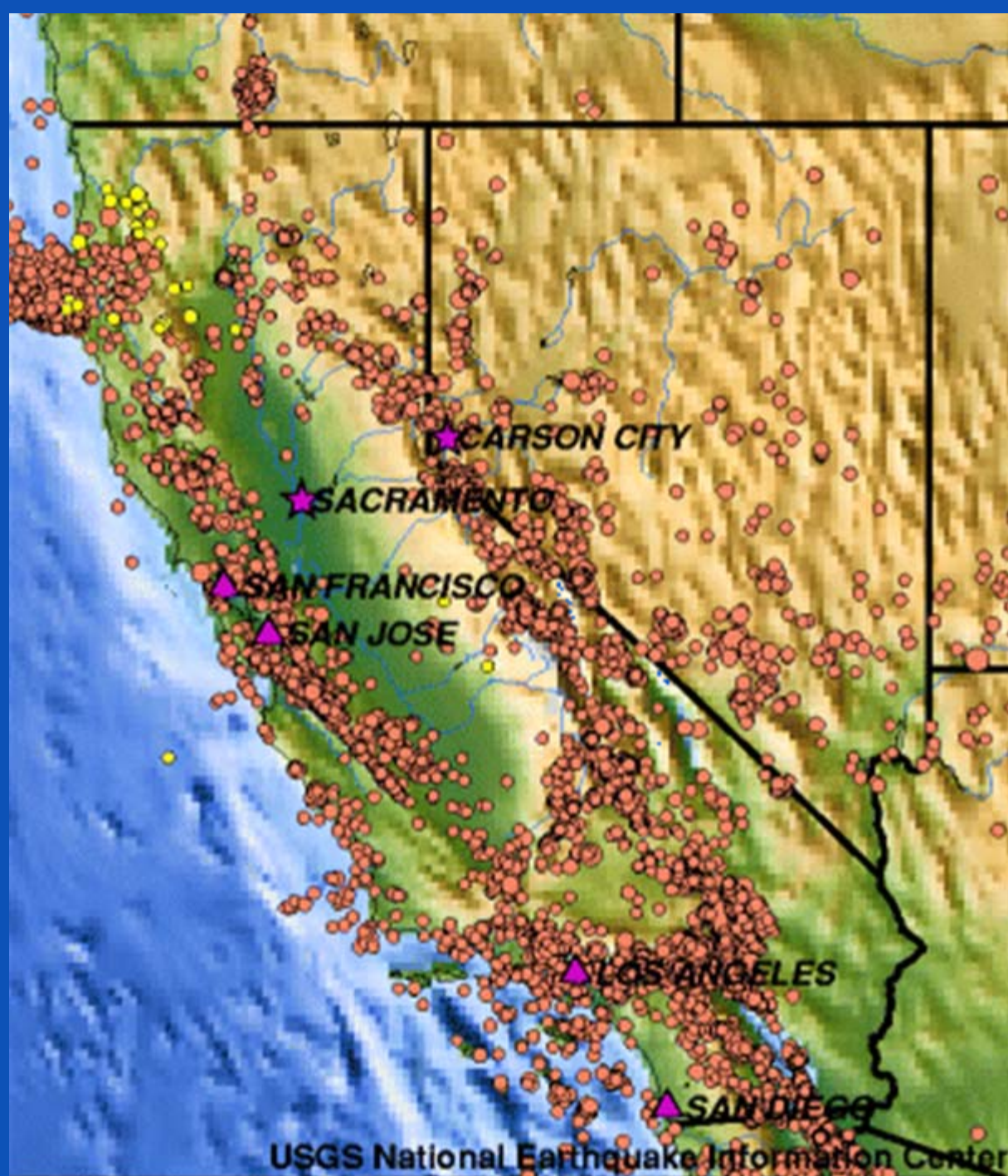
PROJECT WORKSHEET

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 30 minutes. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and submitting the forms. You are not required to respond to this collection of information unless a valid OMB control number is displayed in the upper right corner of the forms. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing the burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, SW, Washington, DC 20472, Paperwork Reduction Project (3067-0151). **NOTE:** Do not send your completed form to this address.

DECLARATION NO. FEMA- ____-DR- ____	PROJECT NO.	FIPS NO.	DATE	CATEGORY	
DAMAGED FACILITY			WORK COMPLETE AS OF: _____ : _____ %		
APPLICANT		COUNTY			
LOCATION			LATITUDE	LONGITUDE	
DAMAGE DESCRIPTION AND DIMENSIONS					
SCOPE OF WORK					
Does the Scope of Work change the pre-disaster conditions at the site? <input type="checkbox"/> Yes <input type="checkbox"/> No Special Considerations issues included? <input type="checkbox"/> Yes <input type="checkbox"/> No Hazard Mitigation proposal included? <input type="checkbox"/> Yes <input type="checkbox"/> No Is there insurance coverage on this facility? <input type="checkbox"/> Yes <input type="checkbox"/> No					
PROJECT COST					
ITEM	CODE	NARRATIVE	QUANTITY/UNIT	UNIT PRICE	COST
			/		
			/		
			/		
			/		
			/		
			/		
			/		
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			/		
			/		
TOTAL COST					\$0.00
PREPARED BY:			TITLE:		







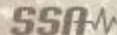
100th Anniversary '06 Earthquake Conference

Commemorating the 1906 San Francisco Earthquake

Managing Risk in Earthquake Country

April 18 - 21, 2006 | The Moscone Center

Convened Jointly By:



An Affiliation of Earthquake Scientists, Engineers, and Emergency Managers

**FEDERAL EMERGENCY MANAGEMENT AGENCY
PROJECT WORKSHEET
INSTRUCTIONS**

The Project Worksheet must be completed for each identified damaged project.

Projects with estimated or actual cost of damage greater than \$47,800 (FY 99) are large projects.
Projects with estimated or actual cost of damage less than \$47,800 (FY 99) are small projects.

After completing Project Worksheets, submit the worksheets to your Public Assistance Coordinator.

Identifying Information

Declaration No: Indicate the disaster declaration number as established by FEMA (i.e. "FEMA 1136-DR-TN", etc.).

Project No: Indicate the project designation number you established to track the project in your system (i.e. 1, 2, 3, etc.).

FIPS No: Indicate your FIPS number within this space. This is optional.

Date: Indicate the date the worksheet was prepared in MM/DD/YY format.

Category: Indicate the category of the project according to FEMA specified work categories. This is optional.

Applicant: Name of the governmental or other legal entity to which the funds will be awarded.

County: Name of the county where the damage is located. If located in multiple counties, indicate "Multi-County."

Damage facility: Identify the facility and describe its basic function.

Work Complete as of: Indicate the date that the work was examined in the format of MM/DD/YY and the percentage of work completed to that date.

Location: This item can range anywhere from an "address," "intersection of..." "1 mile south of ...on...." to "county wide." If damages are in different locations or different counties please list each location. Include latitude and longitude of the project if known.

Damage Description and Dimensions: Describe the disaster-related damage to the facility, including the cause of the damage and the area or components affected.

Scope of Work: List work that has been completed, and work to be completed, which, is necessary to repair disaster-related damage. Include items recorded on the preliminary damage assessment.

Does the Scope of Work change the pre-disaster conditions of the site: If the work described under the Scope of Work changes the facilities conditions (i.e. increases / decreases the size or function of the facility or does not replace damaged components in kind with like materials), check (✓) yes. If the Scope of Work returns the site to its pre-disaster configuration, capacity and dimensions check (✓) no.

Special Considerations: If the project includes insurable work, and/or is affected by environmental (NEPA) or historic concerns, check (✓) either the Yes or No box so that appropriate action can be initiated to avoid delays in funding. Refer to *Applicant Guidelines* for further information.

Hazard Mitigation: If the pre-disaster conditions at the site can be changed to prevent the disaster-related damage, check (✓) Yes. If no opportunities for hazard mitigation exist check (✓) no. Appropriate action will be initiated and avoid delays in funding. Refer to *Applicant Handbook* for further information.

Is there insurance coverage on this facility: Federal law requires that FEMA be notified of any entitlement for proceeds to repair disaster-related damages, from insurance or any other source. Check (✓) yes if any funding or proceeds can be received for the work within the Scope of Work from any source besides FEMA.

Project Cost

Item: Indicate the item number on the column (i.e. 1, 2, 3, etc.). Use additional forms as necessary to include all items.

Code: If using the FEMA cost codes, place the appropriate number here.

Narrative: Indicate the work, material or service that best describes the work (i.e. "force account labor overtime", "42 in. Dia. RCP", "sheet rock replacement", etc.).

Quantity/Unit: List the amount of units and the unit of measure ("48/cy", "32/lf", "6/ea", etc.).

Unit Price: Indicate the price per unit.

Cost: This item can be developed from cost to date, contracts, bids, applicant's experience in that particular repair work, books which lend themselves to work estimates, such as RS Means, or by using cost codes supplied by FEMA.

Total Cost: Record total cost of the project.

Prepared By: Record the name and title of the person completing the Project Worksheet.

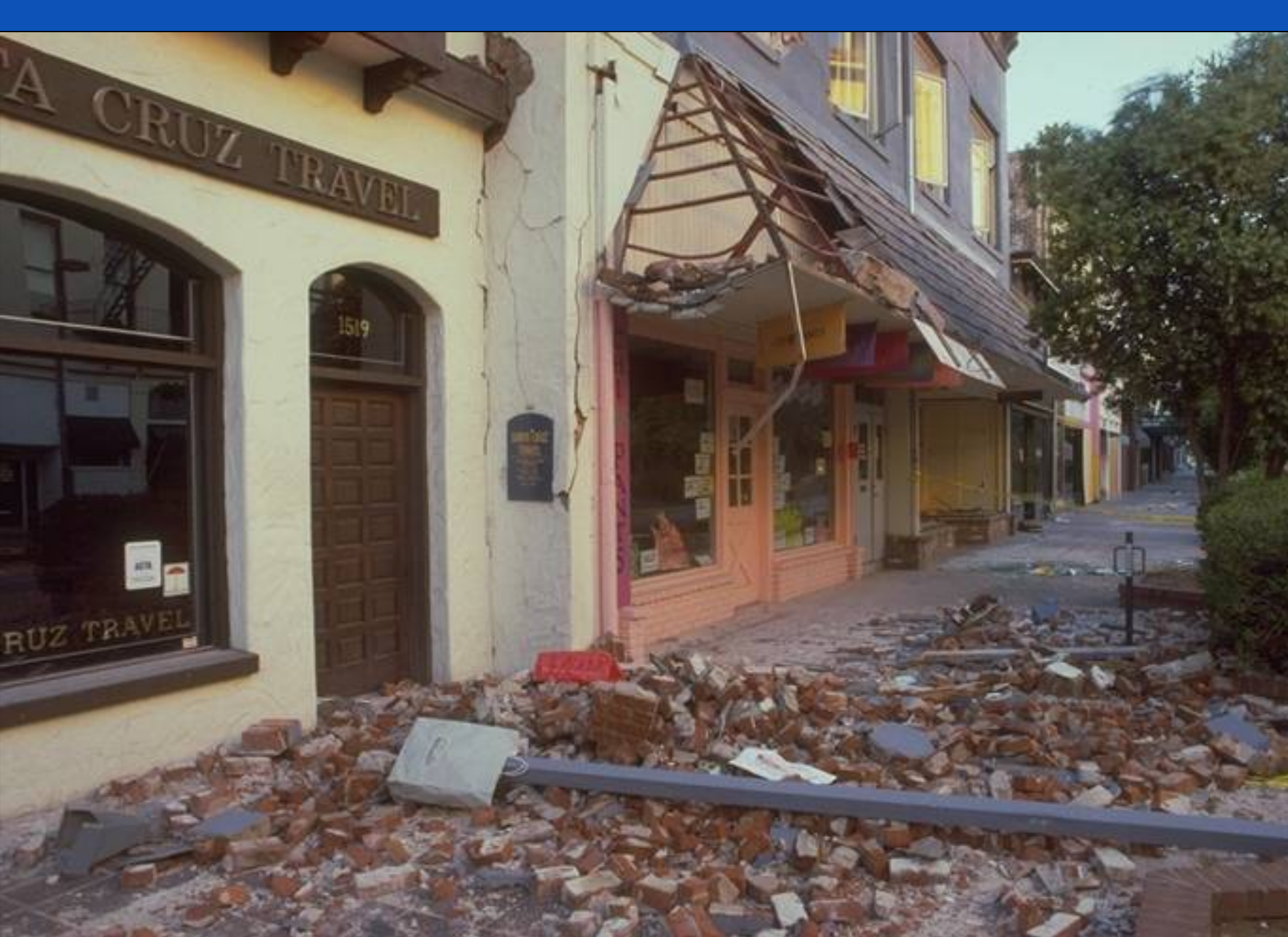
Record Requirements

Please review the *Applicant Handbook* for detailed instructions and examples.

For all completed work, the applicant must keep the following records:

- Force account labor documentation sheets identifying the employee, hours worked, date and location;
- Force account equipment documentation sheets identifying specific equipment, operator, usage by hour/mile and cost used;
- Material documentation sheets identifying the type of material, quantity used and cost;
- Copies of all contracts for work and any lease/rental equipment costs.

For all estimated work, keep calculations, quantity estimates, pricing information, etc. as part of the records to document the "cost/estimate" for which funding is being requested.









Santa Cruz Hardware

Method of Estimating

The type of construction for the facility has a value of \$100.00 per square foot; the building had a footprint area of 2,000 square feet; the building height was 3 stories; and there was 10% to 30% damage.

The dollar estimate of the damage would have a range:

$$\$100.00 \times 2,000 \times 3 \times 0.1 = \$60,000.00$$

$$\$100.00 \times 2,000 \times 3 \times 0.3 = \$180,000.00$$

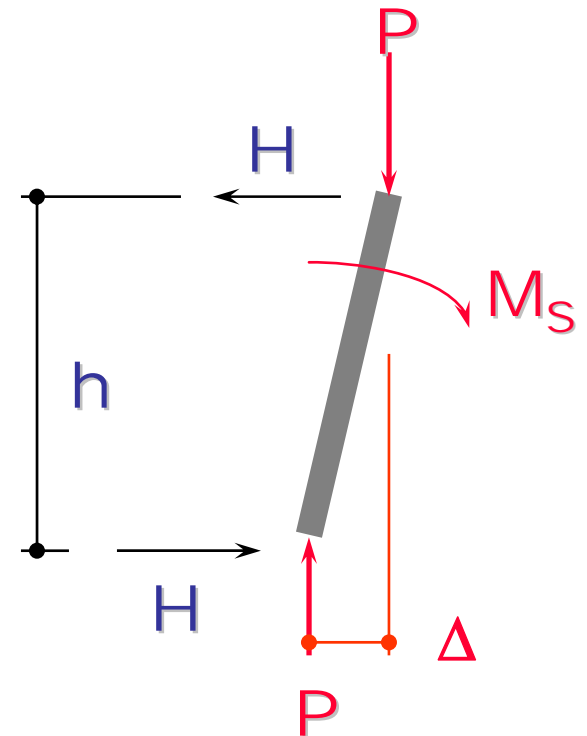
Evaluation Criteria (Cont.)

3. P-Delta Effects

$$M_S = P \times \Delta$$

$$H = M_S / h$$

M_S increases Δ which increases H and M_S





































CALIFORNIA REPUBLIC

GO GREEN